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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/073,091

02/12/2002

Frederick A. Donahue

D/A0944 (1508/3330)

3074

7590

11/16/2004

Gunnar G. Leinberg, Esq.
Nixon Peabody LLP
Clinton Square
P.O. Box 31051
Rochester, NY 14603-1051

EXAMINER

PUNNOOSE, ROY M

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,091

Applicant(s)

DONAHUE ET AL.

Examiner

Roy M. Punnoose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/2002; 6/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-22) in the reply filed on October 04, 2004 is acknowledged. The traversal is on the ground(s) that "the claims of the present application require common areas of search and consideration" and "no serious burden exists for search and examination of the groups ...". This is not found persuasive because:

- I. Claims 1-22, are drawn to a system for identifying an object using polarized light, classified in class 356, subclass 369.
- II. Claims 23-30 are drawn to a system for communicating information, classified in class 356, subclass 73.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention of Group II has separate utility such as a communication system and method for transmitting and/or receiving information about the status of an event. See MPEP § 806.05(d). It should be noted that all the limitations of claims 23-30 are directed to a communication device classified in class 356, subclass 73.1, whereas, the limitations of claims 1-22 are directed to identifying an object using polarized light, classified in class 356, subclass 369.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Oath/Declaration

2. The page with the applicant's name, address, citizenship and signature is missing from the file. Applicant is requested to submit the missing parts of the oath, or a new oath in response to this office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 8, 11 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Hoshino et al (US_6,301,047 B1).

5. Claims 1, 8, 11 and 17 are rejected because Hoshino et al (Hoshino hereinafter) discloses a system for identifying at least one object, the system comprising, a signal transceiver system 11, 12a, 12b that detects a polarized light signal from the at least one object 1 and a signal processing system that identifies at least one characteristic (see col.6, lines 7-8) of the at least one object in response to the detected polarized light signal (see col.4, lines 25-65).

6. Claim 2 is rejected because Hoshino discloses a system for identifying at least one object further comprising a reflective surface 1 (see Figure 1) on at least a portion of the object X.

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7. Claims 3, 12 and 18 are rejected because Hoshino discloses a system for identifying at least one object further comprising a photo emitter unit 11 that transmits the polarized light signal towards the object 1 (see Figure 1).

8. Claim 5 is rejected because Hoshino discloses a system for identifying at least one object further comprising a first optical polarizer 13 arranged in a first orientation on at least a portion of the signal transceiver system 11, 12a, 12b with respect to a second optical polarizer 4 arranged in a second orientation on at least a portion 1 of a reflective surface on the object X (see col.4, line 66- col.5, line 8).

9. Claim 6 is rejected because Hoshino teaches that the first optical polarizer 13 covers at least a portion of the photo emitter unit 11 (see Figure 8).

10. Claim 7 is rejected because Hoshino teaches that the first optical polarizer 13 covers at least a portion of the photo detector unit 12a (see Figure 8).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 9, 10, 14-16 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al (US_6,301,047 B1).

13. Claims 9, 10, 16 and 22 are rejected because Hoshino discloses all the claim limitations except that the object comprises an ink cartridge or, determine at least one characteristic

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comprises a low or high capacity, a particular brand, or a presence of an ink cartridge in a printing system so that the quality of ink or the level of ink can be more accurately be determined in a printing system.

In view of Hoshino's teaching of detecting one type of characteristic (see col.6, lines 7-8), it would have been obvious to one of ordinary skills in the art at the time the invention was made to select any desired type of object, such as an ink cartridge, or to determine at least one desired type of characteristic such as determining a low or high capacity, a particular brand, or a presence of an ink cartridge in a printing system so that the quality of ink or the level of ink can be more accurately be determined in a printing system.

14. Claims 14, 15, 20 and 21 are rejected because Hoshino discloses all the claim limitations except for the explicit teaching of reflecting the transmitted polarized light signal off of a reflective surface on the object when the transmitted polarized light signal has a polarization that is substantially the same as the polarization of an optical polarizer covering at least a portion of the reflective surface, or, receiving the polarized light signal at a photo detector unit when the polarized light signal has a polarization that is substantially the same as the polarization of an optical polarizer covering at least a portion of the photo detector unit so that certain characteristics of the object can be more accurately be determined in a detection system.

In view of Hoshino's teaching of reflecting the transmitted polarized light signal off of a reflective surface on the object when the transmitted polarized light signal has a predetermined polarization (see col.4, line 66- col.5, line 8), and receiving the polarized light signal at a photo detector unit when the polarized light signal has a predetermined polarization, it would have been obvious to one of ordinary skills in the art at the time the invention was made to select a

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desired polarization orientation for said transmitted or reflected light to or from the object, so that certain characteristics of the object can be more accurately be determined in a detection system.

15. Claims 4, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al (US_6,301,047 B1) in view of Stevens (US_6,583,415 B2).

Claims 4, 13 and 19 are rejected because:


- A. Hoshino discloses all the claim limitations except that the transceiver further comprises a drive unit that rotates the photo emitter unit, the signal processing system controlling the drive unit and causing the photo emitter unit to transmit the polarized light signal towards the object, so that certain characteristics of the object can be more accurately be determined in a detection system.
- B. Stevens teaches a rotating polarizer 110 (see Figure 1A, col.4, lines 12-58) to detect polarized or other type of light directly from a light source or reflected light in order to detect light of a certain polarization orientation so that certain characteristics of the object can be more accurately be determined in a detection system.
- C. In view of Stevens's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to rotate the photo emitter unit, the signal processing system controlling the drive unit and causing the photo emitter unit to transmit the polarized light signal towards the object, so that certain characteristics of the object can be more accurately be determined in a detection system.

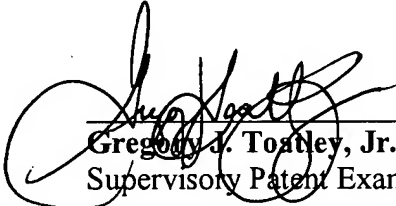
Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-272-2800 ext.77**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roy M. Punnoose 
Patent Examiner
Art Unit 2877
November 14, 2004


Gregory J. Toatley, Jr.
Supervisory Patent Examiner